PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PRD2023-PCTf	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP 03/51021	International filing date *(day/month/year)* 16.12.2003	Priority date *(day/month/year)* 23.12.2002
International Patent Classification (IPC) or both national classification and IPC C07C233/11		
Applicant JANSSEN PHARMACEUTICA N.V.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

   ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the opinion
   - II ☐ Priority
   - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
04.06.2004	23.02.2005
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Seufert, G Telephone No. +49 89 2399-8330

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP 03/51021

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

Description, Pages

1-95 as originally filed

Claims, Numbers

1-17 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 1-7(part), 9-13(part), 15-16(part), 17

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☐ the description, claims or drawings *(indicate particular elements below)* or said claims Nos. are so unclear that no meaningful opinion could be formed *(specify)*:

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the said claims Nos. 1-7(part), 9-13(part), 15-16(part), 17

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the Standard.

☐ the computer readable form has not been furnished or does not comply with the Standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	8, 12, 16
	No:	Claims	1-7, 9-11, 13-15
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-16
Industrial applicability (IA)	Yes:	Claims	1-16
	No:	Claims	

2. Citations and explanations

see separate sheet

Reference is made to the following documents:

D1 US-A-3919313
D2 Tetrahedron 57(11), 2001, pages 2231-2236
D3 DATABASE CA [Online], Database accession no. 53:72551
D4 DATABASE CROSSFIRE BEILSTEIN [Online], BRN 209124
D5 DATABASE CROSSFIRE BEILSTEIN [Online], Reaction ID 1481005
D6 DATABASE CROSSFIRE BEILSTEIN [Online], Reaction ID 127579
D7 DATABASE CROSSFIRE BEILSTEIN [Online], BRN 8562669
D8 DATABASE CROSSFIRE BEILSTEIN [Online], Reaction ID 378559
D9 DATABASE CROSSFIRE BEILSTEIN [Online], BRN 2125777
D10 DE-A-1959898
D11 DATABASE CROSSFIRE BEILSTEIN [Online], ID 481635
D12 DATABASE CROSSFIRE BEILSTEIN [Online], Reaction ID 11354
D13 DATABASE CROSSFIRE BEILSTEIN [Online], BRN 397713
D14 DATABASE CROSSFIRE BEILSTEIN [Online], BRN 2697500
D15 DATABASE CROSSFIRE BEILSTEIN [Online], BRN 2443257
D16 DATABASE CROSSFIRE BEILSTEIN [Online], Reaction ID 4215309
D17 DATABASE CROSSFIRE BEILSTEIN [Online], Reaction ID 1136477
D18 DATABASE CROSSFIRE BEILSTEIN [Online], Reaction ID 79088
D19 DATABASE CROSSFIRE BEILSTEIN [Online], BRN 23725
D20 DATABASE CROSSFIRE BEILSTEIN [Online], Reaction ID 1040871
D21 FR-A-1399615
D22 DE-A-2624290
D23 US-A-3622567
D24 US-A-3526656
D25 US-A-2510945
D26 DATABASE CROSSFIRE BEILSTEIN [Online], REACTION ID 120726
D27 DATABASE CROSSFIRE BEILSTEIN [Online], Reaction ID 382918
D28 DATABASE CROSSFIRE BEILSTEIN [Online], BRN 8496573
D29 DATABASE CROSSFIRE BEILSTEIN [Online], BRN 9338121
D30 DATABASE CROSSFIRE BEILSTEIN [Online], BRN 398582
D31 DATABASE CROSSFIRE BEILSTEIN [Online], BRN 5520589
D32 DATABASE CAPLUS [Online], Database accession no. 1984:156569
D33 WO-A-9926927

D34 WO-A-9811073

III. Non-establishment of opinion

According to Rule 66.1(e) PCT the International Preliminary Examination Authority is not required to carry out an examination on subject-matter for which no search report as been established. The applicant has been informed by the Search Authority that a meaningful search has not been possible considering the large amount of documents relevant for the issue of novelty. A complete search has been carried out for a particular group of compounds as defined on the supplementary sheet included in the search report. Consequently, the examination of the present invention with regard to novelty, inventive step and industrial applicability has been carried out completely only for that particular group of compounds.

Furthermore, the International Search Authority has found that the present application lacks unity of invention (two inventions). The search fees for the second invention (claim 17) have not been paid and therefore no search has been carried out for the second invention. Consequently, no examination has been carried out for the subject-matter of claim 17 (Rule 66.1(e) PCT).

V. Reasoned statement under Art. 35(2) PCT with regard to novelty, inventive step and industrial applicability

Novelty

The present application refers to compounds of the general formula (I). Compounds falling within the scope of claim 1 are anticipated by the documents D1-D34 (see international search report and relevant cited passages). Claim 1 as well as claims 2-7, 13 and 14 are thus not considered to meet the requirement of Art. 33(2) PCT. Claims 9-11 and 15 may only be considered novel if the compounds they are referring to have never been disclosed as pharmaceutically active. Documents D1, D3, D22, D25 and D32-34 disclose compounds falling within the scope of claim 1 with pharmaceutical properties. Thus, claims 9-11 and 15 are not considered to meet the

requirements of Art. 33(2) PCT.

The subject-matter of claims 8, 12 and 16 has not been anticipated by any of the prior art documents. These claims, therefore, seem to meet the requirement of Art. 33(2) PCT.

Inventive step

The problem to be solved by the present invention was to provide further compounds, which have 11-β-hydroxysteroid dehydrogenase inhibitory activity.

The proposed solution of the claims is not considered to meet the requirement of Art. 33(3) PCT for the following reasons:

To be considered inventive the underlying technical problem has to be solved over basically the whole scope of the claims.

The application does not contain sufficient data showing that the problem to be solved, i.e. the provision of compounds useful as 11-β-hydroxysteroid dehydrogenase inhibitor, has been solved over basically the whole breadth of the claim. The available biological data support only a very small part of claim 1. The claims are therefore not considered to meet the requirement of Art. 33(3) PCT.

Further remarks

The claims are not sufficiently supported as required by Article 6 PCT. The claims encompass a large amount of possible compounds while only a very small part is supported by the description.

Example 131 in table 2 does not fall within the scope of the claims. This inconsistency between the claims and the description leads to doubt concerning the matter for which protection is sought, thereby rendering the claims unclear (Article 6 PCT).

Expressions beginning with "particularly, preferably, specially, especially, such as etc." (see claims 1, 4-7, 12, 13 and 16) do not limit the claim and render the exact scope of the claims doubtful. Preferred embodiments, however, may be added in form of dependent claims.

Apparently the structures (q), (k) (g) and (u) in claim 1 are equivalent to the structures (r) (w) (l) and (t). The same applies to claims 2, 4 and 5 and to the description.

Claims 13 and 14 comprise all the features of claim 1 and are therefore not appropriately formulated as a claim dependent on the latter (Rule 6.4 PCT). The same applies to claims 15 and 16, which comprise all the features of claims 11 and 12 respectively.

The statement that the invention also concerns a method of treatment, see page 33, lines 13-20 is inconsistent with the claims (Art. 6 PCT).